

Utah Water Supply Outlook Report

April, 2007



Johnson Valley Snow Course April, 2007. New record low April 1 Snowpack for the Sevier and southeastern Utah Watersheds. Photo by Tim Bardsley, NRCS, USDA.

Water Supply Outlook Reports and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

Snow Survey Staff, 245 N Jimmy Doolittle Rd, SLC Utah, 84041 - Phone: (801)524-5213 Vane O. Campbell, Area Conservationist, 340 N. 600 E., Richfield, UT 84701 - Phone: (435) 896-6441 Kerry Goodrich, Area Conservationist, 2871 S Commerce Way, Ogden UT 84401 (801)629-0575 Barry Hamilton, Area Conservationist, 540 W, Price River Dr. Price, UT 84501-2813 - Phone: (435) 637-0041 Internet Address: http://www.ut.nrcs.usda.gov/snow/

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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STATE OF UTAH GENERAL OUTLOOK April 1, 2007

SUMMARY

March reminds us that when you think it can't possibly get worse, it certainly can. This March was a complete disaster for snowpacks. At a time when Utah normally gets a substantial amount of snow (about 17% of our total snowpack typically accumulates in March), snowpacks were in full retreat, heading the wrong direction. Not in a quiet, organized fashion but in full out panic, headlong at full speed without the cinch tightened and with stirrups flapping. So, just how bad was it? The March snowpack accumulation in Bear River was -29% of average, the worst April 1 since 2001. The Weber River March accumulation was -28% of average, the worst April 1 since 1992. The March accumulation in the Provo was -41% of average, making it the worst April 1 since 1977 and there are still many who remember how bad 1977 was. The Uinta's March accumulation was -38% of average, also the worst April 1 since 1977. Both Southeast Utah and the Sevier River have a new record low April 1 snowpack, with percent of average March accumulation at -79% and -76%, respectively. Southwest Utah March accumulation was -138%, the worst snowpack since 2002. Statewide, the March accumulation was -55% of average and the worst state total since 1977. Is this the worst March ever in terms of snowpack accumulation? The answer is no, there have been a couple that were worse, but this year we really haven't had any good accumulation months for the entire season. This leaves us in the current position of having snowpacks that range from 37% of average in southwest Utah to 57% of average on the Uintas. Most areas have between 40% and 55% of average snowpacks. Utah needed a monster March snow accumulation and what we got was one of the lowest on record. Soil moisture, as one would expect from all that melting snow, increased rapidly this past month: Bear - 74%, Weber - 72%, Provo - 65%, Uintah Basin - 61%, southeast Utah - 73%, Sevier -69%, southwest Utah - 66%, and statewide - 69% of saturation. These values are a little higher than last year. In general, most areas of the state have excellent reservoir carryover. General water supply conditions range from much below to near average. Streamflow forecasts range from 13% to 68% of average. Surface Water Supply Indices range from 12% on the Weber River to 67% on the west side of the Uintah Basin.

SNOWPACK

April first snowpacks as measured by the NRCS SNOTEL are as follows: Bear - 56%, Weber - 54%, Provo - 50%, Uintahs - 57%, southeast Utah - 36%, Sevier - 45%, southwest Utah - 37% and the statewide figure is 50% of average. Snowpacks are isothermal at most locations with rapid snowmelt. This is about 3 weeks earlier than normal. In a general statewide context, this is the worst April 1 snowpack since 1977.

PRECIPITATION

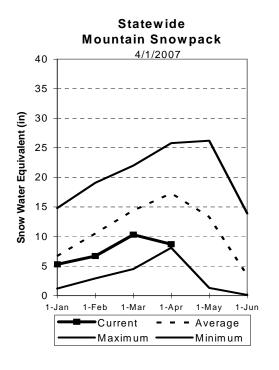
Mountain precipitation during March was much below normal in northern Utah (58%-65%) and much below normal across southern Utah (34%-51%). This brings the seasonal accumulation (Oct-Mar) to 82% of average statewide and ranges from 76% on southwest Utah to 88% over southeastern Utah.

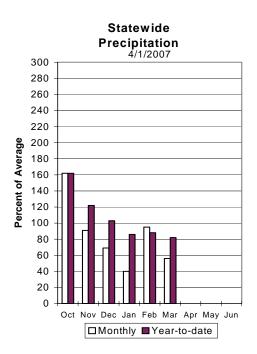
RESERVOIRS

Storage in 41 of Utah's key irrigation reservoirs is at 74% of capacity up 3% from last month. This is also an increase of 3% from last year. Reservoirs across the State have been making steady gains in storage. Bear Lake really is the last reservoir to remain in an extremely low condition due to the prolonged drought.

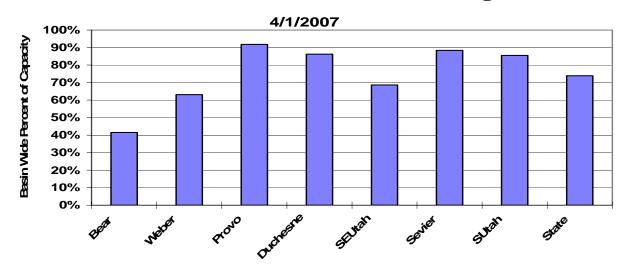
STREAMFLOW

Snowmelt streamflows are expected to have a wide range from much below average to near average across the state of Utah this year. Forecast streamflows range from 3% on North Creek near Monticello to 68% of average for the Bear River near State Line. Most flows are forecast to be in the 40% to 55% range.





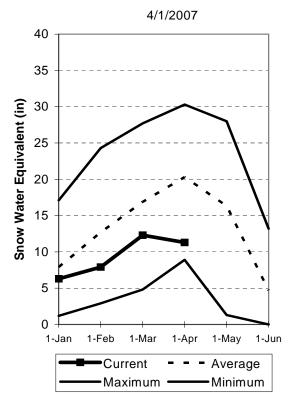
Statewide Basin Reservoir Storage



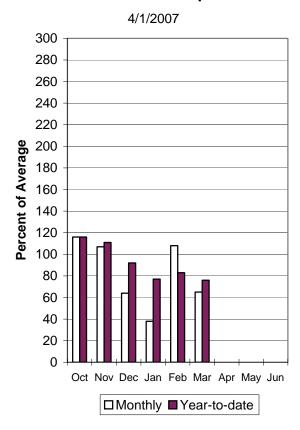
Bear River Basin April 1, 2007

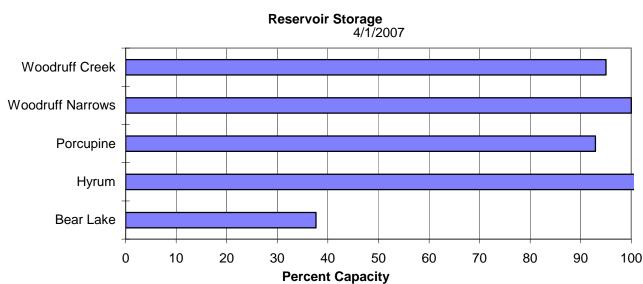
Snowpacks on the Bear River Basin are much below average at 55% of normal, about 44% of last year. Specific sites range from 0% to 76% of normal. March precipitation was much below average at 65%, which brings the seasonal accumulation (Oct-Mar) to 80% of average. Soil moisture levels in runoff producing areas are at 74% of saturation in the upper 2 feet of soil compared to 61% last year. This is due mainly to above average precipitation in October. Forecast streamflows are much below average (32%-68%) volumes for this spring. Reservoir storage is low at 42% of capacity, 14% more than last year. The Surface Water Supply Index is at 21% for the Bear River, or 79% of years have had more total water available. Water supply conditions are much below normal due to low streamflow and reservoir storage. Since 1971 only one year, 1992, had worse snowpack conditions.

Bear River Snowpack



Bear River Precipitation





BEAR RIVER BASIN Streamflow Forecasts - April 1, 2007

<<===== Drier ===== Future Conditions ====== Wetter ====>> Forecast Point Forecast ========= Chance Of Exceeding * ============ Period 90% 70% 50% 30% 10% 30-Yr Avg. (1000AF) (% AVG.) (1000AF) (1000AF) (1000AF) (1000AF) (1000AF) -----------------------Bear River nr UT-WY State Line 56 68 77 68 86 113 Bear River ab Reservoir nr Woodruff APR-JUL 28 48 64 47 82 114 136 37 2.7 4.3 Big Creek nr Randolph APR-JUL 0.3 1.1 1.8 4.9 Smiths Fork nr Border APR-JUL 44 55 64 62 73 88 103 Bear River at Stewart Dam APR-JUL 75 42 60 32 91 118 234 Little Bear River at Paradise APR-JUL 5.2 9.9 14.0 30 18.8 27 46 28 Logan R Aby State Dam Nr Logan APR-IIII. 42 53 42 65 86 126 Blacksmith Fk Abv Up&L Dam Nr Hyrum APR-JUL 18.2 _____

BEAR : Reservoir Storage (1	RIVER BASIN 000 AF) - End	BEAR RIVER BASIN Watershed Snowpack Analysis - April 1, 2007						
Reservoir	Usable Capacity	*** Usa This Year	ble Storaç Last Year	ge ***	Watershed D	Number of Data Sites	This Year ======= Last Yr	as % of ====== Average
BEAR LAKE	1302.0	490.3	325.3		BEAR RIVER, UPPER (abv H	Ia 6	53	64
HYRUM	15.3	15.4	11.4	12.2	BEAR RIVER, LOWER (blw H	Ia. 8	39	50
PORCUPINE	11.3	10.5	11.2	6.7	LOGAN RIVER	4	41	55
WOODRUFF NARROWS	57.3	57.3	42.0	32.7	RAFT RIVER	1	55	98
WOODRUFF CREEK	4.0	3.8	4.0		BEAR RIVER BASIN	14	44	55

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

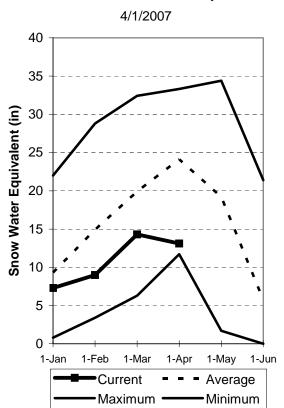
^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

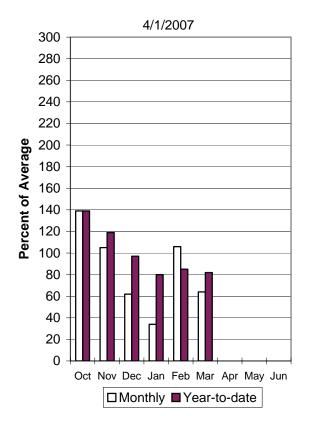
Weber and Ogden River Basins April 1, 2007

Snowpacks on the Weber and Ogden Watersheds are much below average at 54%, about 42% of last year. Individual sites range from 0% to 85% of average. March precipitation was much below average at 65% bringing the seasonal accumulation (Oct-Mar) to 80% of average. Soil moisture levels in runoff producing areas are at 72% of saturation in the upper 2 feet of soil compared to 62% last year. Streamflow forecasts range from 29% to 68% of average. Reservoir storage is at 63% of capacity, 15% lower than last year. The Surface Water Supply Index is at 12% for the Weber River and at 19% for the Ogden River. Overall water supply conditions are much below normal. Only one year since 1971 had worse snowpack conditions, that was in 1977.

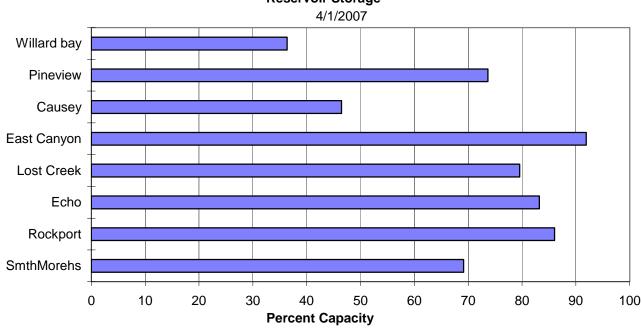
Weber River Snowpack



Weber River Precipitation







WEBER & OGDEN WATERSHEDS in Utah Streamflow Forecasts - April 1, 2007

		<<===== 	Drier ====	== Future Co	nditions ==	===== Wetter	====>>	
Forecast Point	Forecast							
	Period	90% (1000AF)	70% (1000AF)	50 (1000AF)	% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
		=========		=======		=======	=======	=========
Smith & Morehouse Res inflow	APR-JUL	16.7	20	23	68	26 	29	34
Weber River nr Oakley	APR-JUL	54	69	80	65	91	106	123
Rockport Resv Inflow Nr Wanship	APR-JUL	58	74	 86	64	 98	114	134
Weber River nr Coalville	APR-JUL	62	69	 74	54	 79	87	137
Chalk Creek at Coalville	APR-JUL	9.6	16.4	 22	49	 28 	39	45
Echo Reservoir inflow	APR-JUL	46	75	 95 	53	 115 	144	179
Lost Creek Reservoir inflow	APR-JUL	2.4	4.3	5.9	34	7.7	10.9	17.6
East Canyon Reservoir inflow	APR-JUL	6.9	10.8	14.0	45	17.6	24	31
Weber River at Gateway	APR-JUL	125	145	 158 	45	171	191	355
SF Ogden River nr Huntsville	APR-JUL	9.6	14.8	19.0	30	 24	32	64
Pineview Reservoir inflow	APR-JUL	7.0	27	 40 	30	53 	73	133
Wheeler Creek nr Huntsville	APR-JUL	0.8	1.3	1.8	29	2.3	3.2	6.3
wheeler Creek nr Huntsville	APK-JUL	0.8	1.3	1.8 	29	2.3 	3.2	6.3

WEBER & OGDI	WEBER & OGDEN WATERSHEDS in Utah							
Reservoir Storage	Watershed Snowpack Analysis - April 1, 2007							
Reservoir	Usable Capacity 	*** Usa This Year	ble Storag Last Year	ge *** Avg	Watershed	Number of Data Sites	This Ye	ear as % of
CAUSEY	7.1	3.3	2.1	2.6	OGDEN RIVER	4	36	43
EAST CANYON	49.5	45.5	36.6	36.5	WEBER RIVER	9	44	60
ECHO	73.9	61.5	53.3	51.5	WEBER & OGDEN WATERSHE	DS 13	41	54
LOST CREEK	22.5	17.9	16.5	14.1				
PINEVIEW	110.1	81.1	72.4	61.7				
ROCKPORT	60.9	52.4	45.1	35.1				
WILLARD BAY	215.0	78.2	192.2	160.9				

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

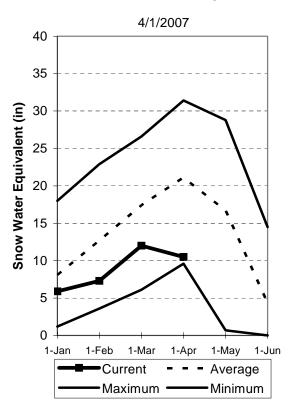
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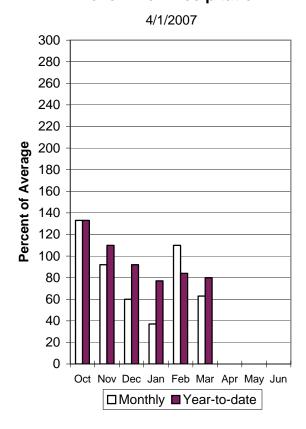
Utah Lake, Jordan River & Tooele Valley Basins April 1, 2007

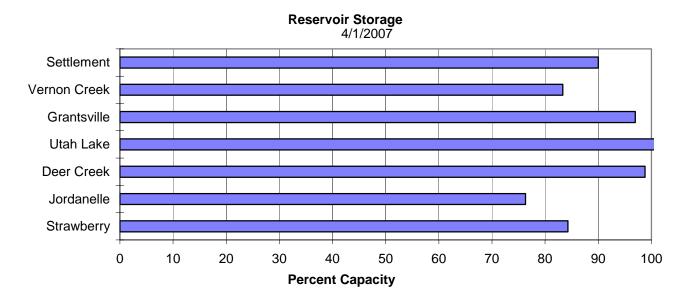
Snowpack over these regions is much below average at 50%, which is 39% of last year and down 19% from last month. This is the lowest April 1 snowpack for this region since 1977. Individual sites range from 0% to 80% of average. March precipitation was much below average at 63%, bringing the seasonal accumulation (Oct-Mar) to 80% of average. Soil moisture levels in runoff producing areas are at 65% of saturation in the upper 2 feet of soil compared to 54% last year. Reservoir storage is at 92% of capacity, 4% higher than last year. Streamflow forecasts range from 26% to 62% of average. The Surface Water Supply Index is at 48%, indicating general water supply conditions are near normal due to good reservoir carryover.

Provo River Snowpack



Provo River Precipitation





______ UTAH LAKE, JORDAN RIVER & TOOELE VALLEY Streamflow Forecasts - April 1, 2007

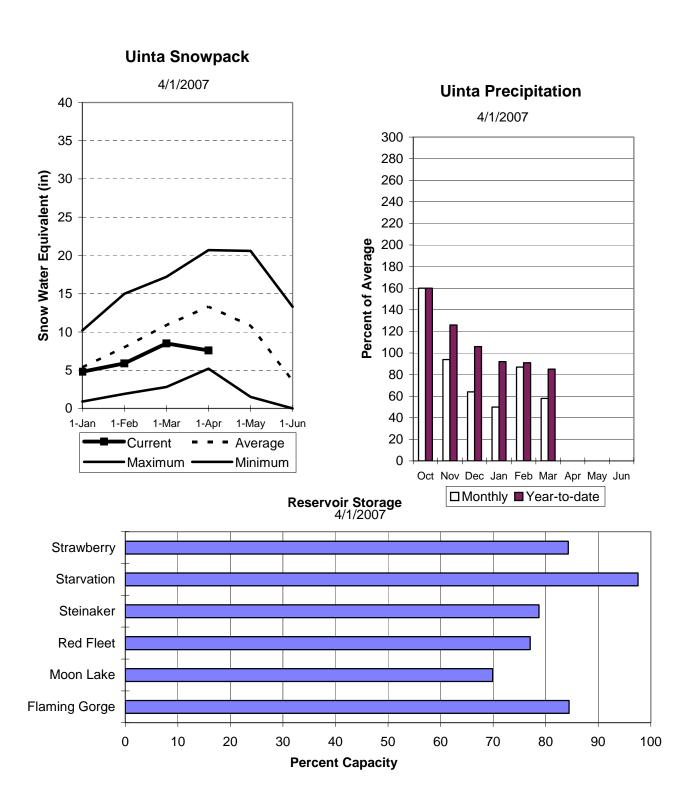
	l I
10%	30-Yr Avg. (1000AF)
	======================================
53	77
76	103
69	109
109	126
24	32
235	325
1.5	2.4
30	40
30	38
4.8	7.0
11.0	16.7
4.6	6.8
3.1	4.5
5.7	8.7
1.1	1.5
1.3	2.1
3.0	3.2
sis - April	1, 2007
	======== Year as % of
	======= Yr Average
	40
36	43
39	60
	49
	50
= 5 = e i =	10% (1000AF) 53 76 69 109 24 235 1.5 30 30 4.8 11.0 4.6 3.1 5.7 1.1 1.3 3.0 2.5 2.6 2.7 2.7 2.8 3.0 3.0 4.8 3.1 3.0 3.1 3.0 3.1 3.0 3.0 4.8 4.8 3.1 3.0 3.0 3.0 4.8 3.1 3.0 3.0 3.0 4.8 3.1 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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Uintah Basin and Dagget SCD's April 1, 2007

Snowpack across the Uintas is much below average at 57%, which is just 49% of last year. This is the worst April 1 snowpack on the Uintas since 1977! Individual sites on the North Slope range from 56% to 97% and the South Slope ranges from 0% to 90% of average. Precipitation during March was much below average at 58% bringing the seasonal accumulation (Oct-Mar) to 85% of average. Soil moisture values in runoff producing areas are at 61% of saturation in the upper 2 feet of soil compared to 36% last year. Reservoir storage is at 86% of capacity, 8% more than last year. Streamflow forecasts range from 17% to 69% of average. The Surface Water Supply Index for the western area is 67% and for the eastern area it is 28% indicating above normal conditions on the west side and much below normal for the eastern area. General water supply conditions range from above average on the west side thanks to excellent reservoir carryover to much below average in the east as a result of record to near record low snowpack.



UINTAH BASIN & DAGGET SCD'S Streamflow Forecasts - April 1, 2007

=====								
Forecast			== Chan					
Period	•		(1					30-Yr Avg. (1000AF)
APR-JUL	44	5 6	: ===== 	65	68	=====================================	90	95
APR-JUL	11.9	16.5		20	69	24	30	29
APR-JUL	256	405		525	44	661	889	1190
APR-JUL	8.5	11.8		14.3	68	17.1	22	21
APR-JUL	17.8	25		30	58	36	45	52
APR-JUL	5.2	7.9		10.0	42	12.4	16.4	24
APR-JUL	22	32		40	38	49	63	105
APR-JUL	33	40		45	55	51	60	82
APR-JUL	35	43		50	56	57	68	89
APR-JUL	54	72		86	46	101	125	188
APR-JUL	2.5	7.0		11.5	20	17.1	27	59
APR-JUL	2.5	3.9	İ	7.0	28	11.0	18.5	25
APR-JUL	6.0	12.0		20	17	30	48	121
APR-JUL	26	33	İ	38	56	44	52	68
APR-JUL	23	30	İ	36	58	42	52	62
APR-JUL	18.0	45	İ	70	27	101	157	260
APR-JUL	17.9	26	İ	32	57	39	50	56
APR-JUL	17.0	49	İ	80	25	119	190	324
			:===== 	:=====:				
AF) - End	of March	========	j 	.=====	Watershed Sr	nowpack Analy	sis - April	
Usable						Numb	er This	Year as % of
i	Year						ites Last	Yr Average
3749.0								65
49.5	34.6	27.4	80.8	ASHL	EY CREEK	2	51	45
25.7	19.8	22.9 1	8.8	BLACI	K'S FORK RIVI	ER 2	66	68
33.4	26.3	33.2	24.2	SHEE	P CREEK	1	107	78
165.3	161.3	139.6 13	88.6	DUCH	ESNE RIVER	11	44	54
1105.9	932.1	841.2 64	18.8	LAKE	FORK-YELLOWS	STONE CRE 4	55	66
				STRA	WBERRY RIVER	4	25	33
			ļ	UINT	AH-WHITEROCKS	S RIVERS 2	72	81
			ļ	UINT	AH BASIN & DA	AGGET SCD 17	49	57
	Forecast Period APR-JUL APR-	Forecast	Forecast			<===== Drier ===== Future Conditions =: Forecast	FORECAST Period 90% 70% (1000AF) (1000A	C

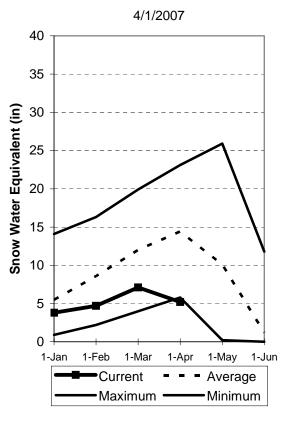
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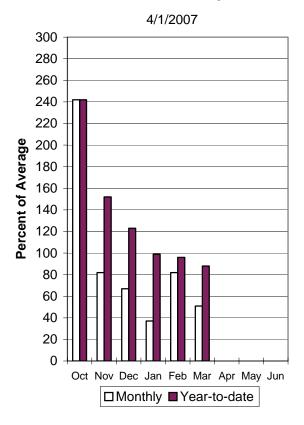
Carbon, Emery, Wayne, Grand and San Juan Co. April 1, 2007

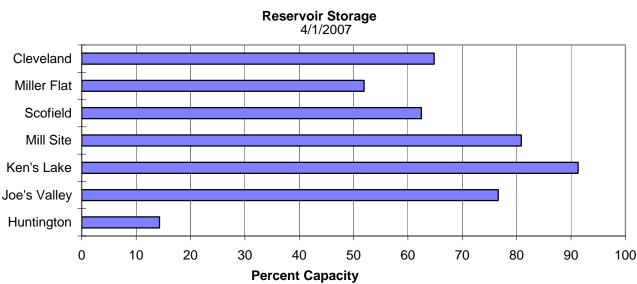
Snowpacks in this region are much below normal at 36% of average, about 35% of last year. Individual sites range from 0% to 98% of average, with Boulder Mountain and the Aquarius Plateau being the best of the worst. This is the worst April 1 snowpack in the 36 years of record for this area, with only two years having a greater March snowpack decrease. Precipitation during March was much below average at 51%, bringing the seasonal accumulation (Oct-Mar) to 88% of normal. Soil moisture estimates in runoff producing areas are at 73% of saturation in the upper 2 feet of soil compared to 44% last year and up 25% from last month, due to early snowmelt. Forecast streamflows range from 4% to 68% of average. Reservoir storage is at 69% of capacity, up 5% from last year at this time. Surface Water Supply Indices for the area are: Price 28%, San Rafael area 11% and Moab 18%. General runoff and water supply conditions are much below normal.

Southeast Utah Snowpack



Southeast Utah Precipitation





CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.

Streamflow Forecasts - April 1, 2007

		<====== Drier ====== Future Conditions ====== Wetter ====>>								
Forecast Point	Forecast	 =======	.=======	= Cha	nce Of E	xceeding * =	.=======	 -=======		
	Period	90%	70%	1	50	_	30%	10%	30-Yr Avg.	
		(1000AF)				(% AVG.)	(1000AF)		(1000AF)	
Gooseberry Creek nr Scofield	APR-JUL	2.5	3.6	: ==== 	4.5	38	5.5	7.1	11.9	
Price River near Scofield Reservoir	APR-JUL	4.5	8.6		16.0	36	23	34	45	
White River blw Tabbyune Creek	APR-JUL	1.4	2.8		3.9	23	5.2	7.6	17.3	
Green River at Green River, UT (2)	APR-JUL	540	950		1400	44	1850	2510	3170	
Huntington Ck Inflow to Electric Lk	APR-JUL	2.5	3.9	İ	5.0	32	6.3	8.3	15.7	
Huntington Ck nr Huntington	APR-JUL	2.5	7.7	İ	16.0	33	24	36	49	
Joe's Valley Resv Inflow	APR-JUL	12.8	17.3	İ	22	38	27	36	58	
Ferron Ck (Upper Station) nr Ferron	APR-JUL	9.4	12.9	İ	15.5	40	18.4	23	39	
Colorado River Near Cisco (2)	APR-JUL	1190	2360	İ	3150	68	3950	5120	4650	
Mill Creek at Sheley Tunnel nr Moab	APR-JUL	1.1	1.3	İ	1.6	32	1.9	2.5	5.0	
Seven Mile Ck nr Fish Lake	APR-JUL	2.5	2.8	İ	3.5	50	4.2	5.4	7.0	
Muddy Creek nr Emery	APR-JUL	3.9	5.7	İ	7.2	36	8.8	11.5	19.9	
North Ck ab R.S. nr Monticello	MAR-JUL	0.0	0.0	į	0.1	7	0.1	0.2	0.8	
	APR-JUL	0.0	0.0	!	0.0	4	0.1	0.1	0.7	
South Ck ab Lloyd's Res nr Monticell	MAR-JUL	0.0	0.1	1	0.1	9	0.2	0.4	1.4	
-	APR-JUL	0.0	0.0	į	0.1	7	0.2	0.3	1.3	
Deserture Ch Di Johnson Ch en Diendi	WAD TITE	0.1	0.4	!	0.7	14	1.1	2.1	5.0	
Recapture Ck Bl Johnson Ck nr Blandi	APR-JUL	0.1	0.4	1	0.7	13	1.0	1.8	4.5	
				i		i				
San Juan River near Bluff (2)	APR-JUL	320	490		680	55	785	1050	1230	
			.=======	 :=====		 ==========	.=======	.=======		
CARBON, EMERY, WAYNE,				- 1			, WAYNE, GRAN			
Reservoir Storage (1000	-			I			owpack Analys	-	•	
	Usable		le Storage *				Numbe		Year as % of	
Reservoir	Capacity	This	Last	i	Water	shed	of			
	I	Year		vg			Data Si			
HUNTINGTON NORTH	4.2	0.6		3.9		RIVER	3	34	38	
JOE'S VALLEY	61.6	47.2	46.3 4	1.4	SAN R	AFAEL RIVER	3	32	40	
KEN'S LAKE	2.3	2.1	2.2	1.4	MUDDY	CREEK	1	21	27	
MILL SITE	16.7	13.5	9.2 8	86.2	FREMO	NT RIVER	3	67	56	
				!						

BLUE MOUNTAINS

CARBON, EMERY, WAYNE, GRA 13

WILLOW CREEK

4

17

35

2

8

36

1

65.8 41.1 34.7 34.7 LASAL MOUNTAINS

SCOFIELD

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

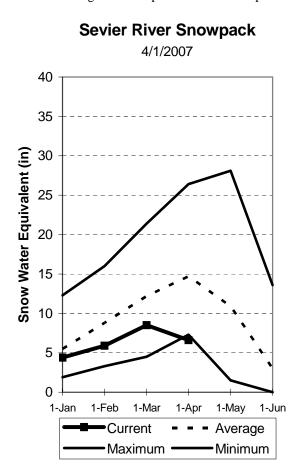
The average is computed for the 1971-2000 base period.

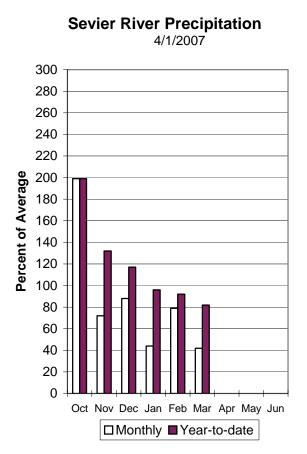
^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

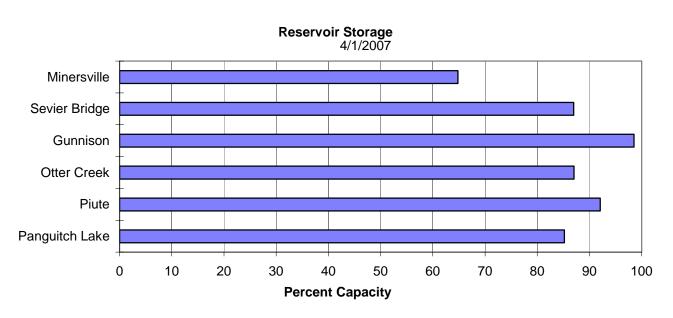
^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

Sevier and Beaver River Basins April 1, 2007

Snowpacks on the Sevier River Basin are much below normal at 45% of average, about 46% of last year and down 24% relative to last month. Individual sites range from 0% to 88% of average. This is a new record low April 1 snowpack for the watershed. Precipitation during March was much below average at 42% of normal, bringing the seasonal accumulation (Oct-Mar) to 82% of average. Soil moisture estimates in runoff producing areas are at 69% of saturation in the upper 2 feet of soil compared to 59% last year. Streamflow forecasts range from 13% to 52% of average. Reservoir storage is at 88% of capacity, 10% less than last year. Surface Water Supply Indices are: Upper Sevier 42%, Lower Sevier 43% and Beaver 19%. Water supply conditions are near to much below average due to reservoir storage but with poor streamflow expected.







SEVIER & BEAVER RIVER BASINS Streamflow Forecasts - April 1, 2007 ______

		<<===== 	Drier ====	== Future Co	nditions ==	===== Wetter	: ====>>	
Forecast Point	Forecast Period	 ======= 90% (1000AF)	70% (1000AF)	= Chance Of E: 50: (1000AF)	%	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Sevier River at Hatch	APR-JUL	11.4	16.2	20	36	=====================================	31	55
Sevier River nr Kingston	APR-JUL	28	38	46	52	 54	68	89
EF Sevier R nr Kingston	APR-JUL	4.6	9.7	14.2	37	19.6	29	38
Sevier R blw Piute Dam	APR-JUL	18.0	36	 52	41	 71	104	126
Clear Creek Abv Diversions Nr Sevier	APR-JUL	5.0	6.5	7.8	36	9.3	12.2	22
Salina Creek at Salina	APR-JUL	0.3	2.3	4.8	24	8.2	14.9	19.7
Manti Ck Blw Dugway Ck Nr Manti	APR-JUL	5.5	7.6	9.2	50	11.0	13.8	18.3
Sevier R nr Gunnison	APR-JUL	85	103	116	41	 190	300	280
Chicken Creek nr Levan	APR-JUL	0.1	0.6	1.1	24	1.8	3.1	4.5
Oak Creek nr Oak City	APR-JUL	0.1	0.3	0.4	27	0.6	0.9	1.7
Beaver River nr Beaver	APR-JUL	4.1	6.8	9.1	34	11.7	16.1	27
Minersville Reservoir inflow	APR-JUL	0.2	0.9	2.1	13	4.0	7.6	16.6
			.======	 ========		 ========		

SEVIER & BEAVE Reservoir Storage (1000	SEVIER & BEAVER RIVER BASINS Watershed Snowpack Analysis - April 1, 2007							
Reservoir	Usable Capacity	*** Usab This Year	======= le Storag Last Year	re *** Avg	Watershed	Number of Data Sites		as % of Average
GUNNISON	20.3	16.9	20.3	16.3	UPPER SEVIER RIVER (sou	======= th 8	47	43
MINERSVILLE (RkyFd)	23.3	15.1	23.0	17.9	EAST FORK SEVIER RIVER	3	47	43
OTTER CREEK	52.5	45.7	52.5	43.5	SOUTH FORK SEVIER RIVER	5	48	43
PIUTE	71.8	66.1	66.3	58.5	LOWER SEVIER RIVER (inc	lu 6	42	43
SEVIER BRIDGE	236.0	205.3	234.9	189.7	BEAVER RIVER	2	60	57
PANGUITCH LAKE	22.3	19.0	19.7	152.9	SEVIER & BEAVER RIVER B	AS 16	47	45

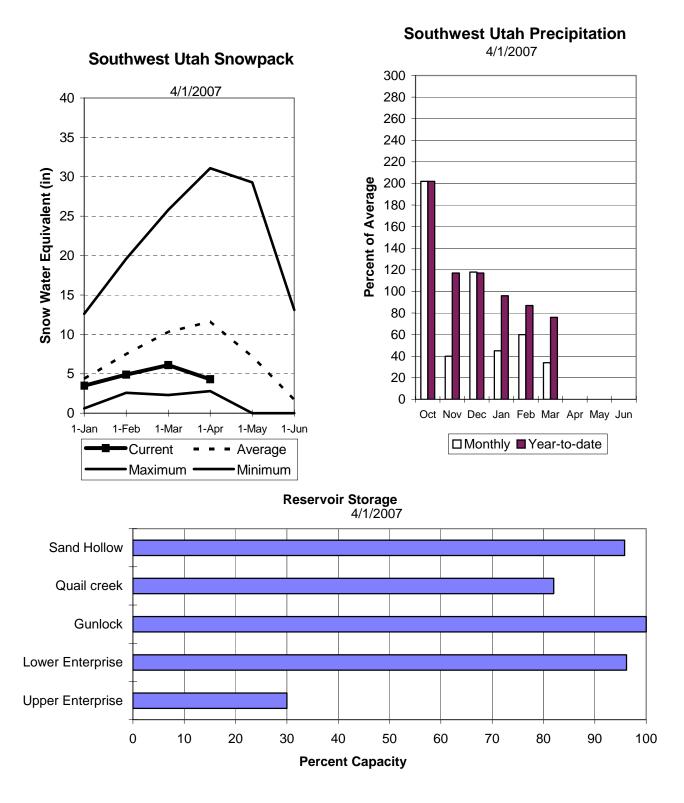
^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 The value is natural volume - actual volume may be affected by upstream water management.

E. Garfield, Kane, Washington, & Iron Co. April 1, 2007

Snowpacks in this region are much below normal at 37% of average, about 43% of last year and down 22% relative to last month. Individual sites range from 0% to 98% of average. Precipitation in the month of March was much below average at 34%, bringing the seasonal accumulation (Oct-Mar) to 76% of average. Soil moisture estimates in runoff producing areas are at 66% of saturation in the upper 2 feet of soil compared to 50% last year. Forecast streamflows range from 20% to 36% of average. Reservoir storage is at 85% of capacity, 8% less than last year. The Surface Water Supply Index is at 29%, indicating much below average water supply conditions.



E. GARFIELD, KANE, WASHINGTON, & IRON Co. Streamflow Forecasts - April 1, 2007

		 <<====== 	Drier ====	== F1	uture Co	onditions		Wetter	=====>>	ļ	
Forecast Point	Forecast Period	 ======= 90% (1000AF)	70% (1000AF)	1	50			30% .000AF)	10% (1000AF)		-Yr Avg. (1000AF)
Lake Powell Inflow (2)	APR-JUL	1450	2970		4000	50	= ===== 	5030	6550		7930
Virgin River at Virgin	APR-JUL	16.6	19.2		23	36		26	34		64
Virgin River near Hurricane	APR-JUL	13.8	17.3		21	30		28	35		69
Santa Clara River nr Pine Valley	APR-JUL	0.4	0.8		1.1	20		1.6	2.5		5.5
Coal Creek nr Cedar City	APR-JUL	4.4	6.5		8.2	43		10.1	13.1		19.3
E. GARFIELD, KANE, Reservoir Storage (10	WASHINGTON,			- <u></u> 		E. GARFIEL Watershed					
Reservoir	Usable Capacity	*** Usabl This Year	e Storage * Last Year #	vg	Water	shed		Numbe of Data Si	===		as % of Average
GUNLOCK	10.4	10.4	10.4	4.5	VIRGI	N RIVER	======	5	35	=====	31

UPPER ENTERPRISE 10.0 3.0 10.0 --- COAL CREEK 2 34 36

LOWER ENTERPRISE 2.6 2.5 1.1 137.1 ESCALANTE RIVER 2 78 73

E. GARFIELD, KANE, WASHIN 9 45 37

40.0 32.8 37.1 31.0 ENTERPRISE TO NEW HARMONY 2

2

50

0

51

0

24322.0 11617.0 10710.0 --- PAROWAN

The average is computed for the 1971-2000 base period.

LAKE POWELL

OUAIL CREEK

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

UTAH SURFACE	WATER	SUPPLY	INDEX
Snow Surveys	NRCS	USDA	
Basin or Region	SWSI/%	Percentile	Years with
1-Apr-07			Similar SWSI
Bear River	-2.43	21%	95,02,06,90
Ogden River	-2.62	19%	01,81,90,04
Weber River	-3.15	12%	03,92,02,90
Provo	-0.17	48%	78,88,79,00
West Uintah Basin	1.39	67%	87,86,00,01
East Uintah Basin	-1.87	28%	03,81,91,88
Price River	-1.83	28%	03,89,05,98
San Rafael	-3.24	11%	94,90,89,92
Moab	-2.68	18%	90,89,03,01
Upper Sevier River	-0.60	42%	78,96,71,76
Lower Sevier River	-0.60	43%	91,68,76,89
Beaver River	-2.60	19%	72,03,76,64
Virgin River	-1.74	29%	02,04,96,85
Snow Surveys			SWSI Scale: -4 to 4
245 N Jimmy Doolittle Rd			Percentile: 0 - 100%
Salt Lake City, UT			
(801) 524-5213			

What is a Surface Water Supply Index?

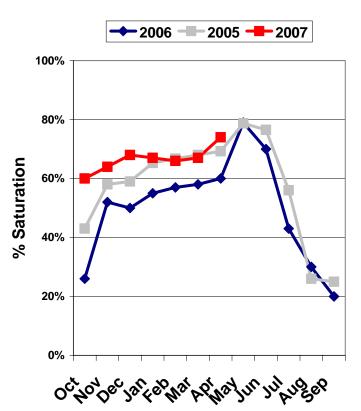
The Surface Water Supply Index (SWSI) is a predictive indicator of total surface water availability within a watershed for the spring and summer water use seasons. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow which are based on current snowpack and other hydrologic variables. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) with a value of zero (0) indicating median water supply as compared to historical analysis. SWSI's are calculated in this fashion to be consistent with other hydroclimatic indicators such as the Palmer Drought Index and the Precipitation index.

Utah Snow Surveys has also chosen to display the SWSI as a PERCENT CHANCE OF NON-EXCEEDANCE. While this is a very cumbersome name, it has the simplest application. It can be best thought of as a simple scale of 1 to 99 with 1 being the drought of record (driest possible conditions) and 99 being the flood of record (wettest possible conditions) and a value of 50 representing average conditions. This rating scale is a percentile rating as well, for example a SWSI of 75% means that this years water supply is greater than 75% of all historical events and that only 25% of the time has it been exceeded. Conversely a SWSI of 10% means that 90% of historical events have been greater than this one and that only 10% have had less total water supply. This scale is far more intuitive for most people and is totally comparable between basins: a SWSI of 50% means the same relative ranking on watershed A as it does on watershed B, which may not be strictly true of the +4 to -4 scale.

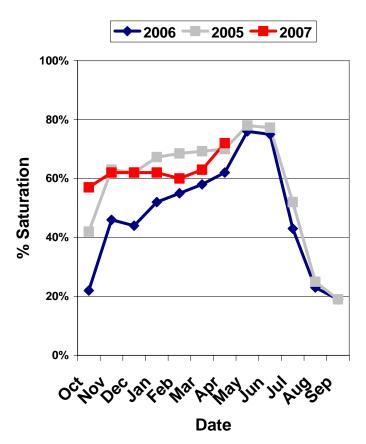
For more information on the SWSI go to: www.ut.nrcs.usda.gov/snow/ on the water supply page. The entire period of historical record for reservoir storage and streamflow is available.

Watershed Soil Moisture Charts for Utah Water Supply

Bear River Soil Moisture

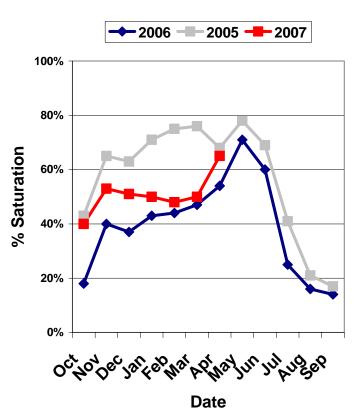


Weber River Soil Moisture

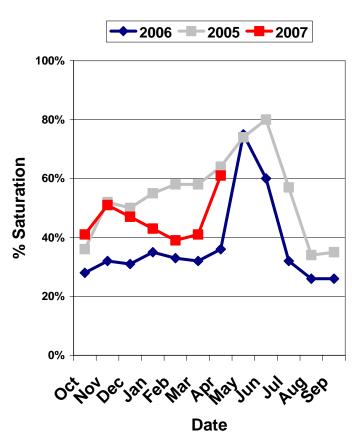


Jordan/Provo River Soil **Moisture**

Date

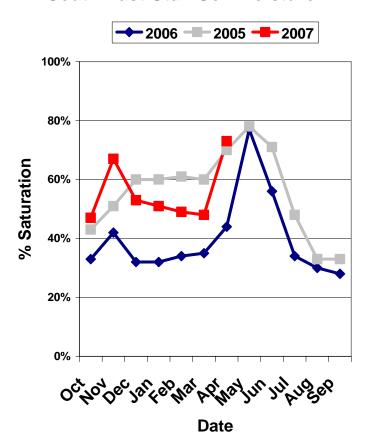


Uintah Basin Soil Moisture

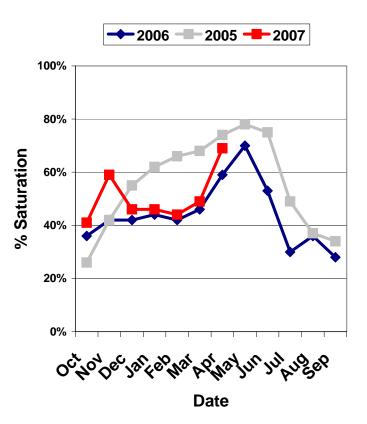


Watershed Soil Moisture Charts for Utah Water Supply

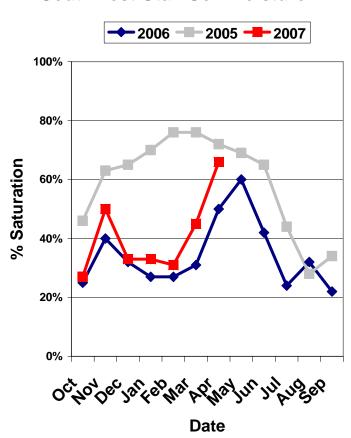
South East Utah Soil Moisture



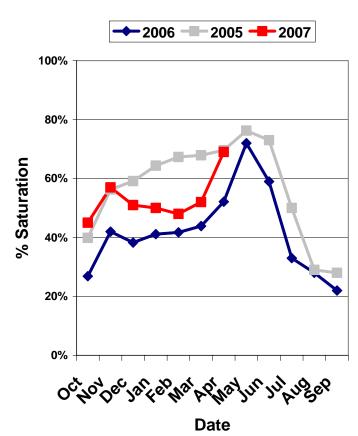
Sevier/Beaver River Soil Moisture



Southwest Utah Soil Moisture



Statewide Soil Moisture

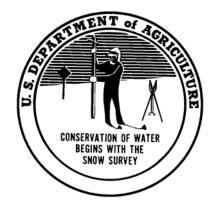


SNOW COURSE DATA

APRIL 2007

SNOW COURSE	ELEV.	DATE				
				CONTENT		71-00
AGUA CANYON SNOTEL	8900	4/01				
ALTA CENTRAL	8800	3/30	66	23.7	56.3	37.3
BEAVER DAMS SNOTEL	8000	4/01	2	.4	12.2	10.5
BEAVER DIVIDE SNOTEL		4/01	5	.4 1.1 18.8	14.4	10.6
BEN LOMOND PK SNOTEL	8000	4/01	43	18.8	53.2	41.5
BEN LOMOND TR SNOTEL	6000	4/01	3	1.0	26.1	19.5
BEN LOMOND PK SNOTEL BEN LOMOND TR SNOTEL BEVAN'S CABIN BIG FLAT SNOTEL BIRCH CROSSING	10290	3/29 4/01	45 46	11 0	17 3	10.0
BIRCH CROSSING	8100	3/29	16	2.5	6.7	5.4
BLACK FLAT-U.M. CK S	9400	4/01	6 16	2.2	10.9	10.3
BLACK'S FORK GS-EF	9340	3/30	16	4.2	10.1	9.7
BLACK'S FORK JUNCTN	8930	3/30	16	4.6	10.3	9.3
BOX CREEK SNOTEL	9800	4/01	19	7.4	14.0 17.2	13.7
	10000			11.9	17.2	21.1
BRIGHTON SNOTEL	8750 8700	4/01	39	14.2 15.9	33.7	25.4
		3/29 4/01	52 52	13.9	23.1	27.8 18.2
BROWN DUCK SNOTEL BRYCE CANYON	8000	3/29	0	0.0	4.6	3.8
BUCK FLAT SNOTEL	9800	4/01	21	8.0		
BUCK PASTURE	9700	3/30	38	8.0 11.5	20.2	18.7 16.9
BUCKBOARD FLAT	9000	3/23	17	5.4	9.2	12.4
BUG LAKE SNOTEL		4/01	43	5.4 13.3	25.6	21.2
BURT'S-MILLER RANCH			0 1	0.0	6.0 8.1	4.9
CAMP JACKSON SNOTEL		4/01	1	.3	8.1	13.6
CASCADE MOUNTAIN SNO			33	10.2	23.0	- 14.6
CASTLE VALLEY SNOTEL CHALK CK #1 SNOTEL	9580 9100	4/01 4/01	20	6.3	15.5	14.6
CHALK CK #1 SNOTEL	8200	4/01 4/01	30	13.0	16 7	24.9 16.2
CHALK CREEK #3	7500	3/30	4	1.0	8.4	6.9
CHEPETA SNOTEL	10300	4/01	36	1.0 12.8	15.7	14.2
CLAYTON SPRINGS SNTL		4/01	14	6.8	12.8	-
CLEAR CK RIDG #1 SNT			26	6.8 8.1	12.8 24.3	19.7
CLEAR CK RIDG #2 SNT		4/01	28 4	8.1 0.5	17.6	14.7
CORRAL	8200		4	0.5		
CURRANT CREEK SNOTEL			- 17	.0 5.2	14.4 24.7	10.2
DANIELS-STRAWBERRY S				4.0		
DILL'S CAMP SNOTEL DONKEY RESERVOIR SNO	9800	4/01	30	4.0 8.5	19.1 6.0	8.7
DRY BREAD POND SNTL	8350	4/01	33	10.3	25.6	22.6
DRY BREAD POND SNTL DRY FORK SNOTEL	7160	4/01	28	9.6	17.7	22.6 18.2
EAST WILLOW CREEK SN FARMINGTON U. SNOTEL	8250	4/01	4	.7	4.1	8.3 34.3
FARMINGTON U. SNOTEL	8000	4/01	67	20.9		
FARMINGTON L. SNOTEL FARNSWORTH LK SNOTEL	6780	4/01	20	6.6	28.7	- 19.6
		4/01	59			
FISH LAKE FIVE POINTS LAKE SNO	8700	3/30 4/01	4 36	0.4 12.0	6.8 22.5	
G.B.R.C. HEADQUARTER			26	7.3	18.5	
G.B.R.C. MEADOWS			48	13.9	29.2	
GARDEN CITY SUMMIT		3/29	36	9.4	19.9	
GARDNER PEAK SNOTEL	8350	4/01	17	6.0	12.3	-
GEORGE CREEK	8840	3/29	45	13.6	27.2	22.3
GOOSEBERRY R.S.	8400	3/30	23	6.9	11.1	
GOOSEBERRY R.S. SNTL		4/01	-	.0	8.5	8.7
GUTZ PEAK SNOTEL	6820		0	0.0	3.6	-
HARDSCRABBLE SNOTEL HARRIS FLAT SNOTEL	7700	4/01 4/01	23 0	7.9 0.0	30.9 2.8	20.2 6.7
HAYDEN FORK SNOTEL	9100	4/01	18	5.9	21.9	
HENRY'S FORK	10000	3/30	39	11.7	17.3	
HEWINTA SNOTEL	9500	4/01	20	6.8	13.1	12.1
HICKERSON PARK SNTL	9100	4/01	27	6.0	5.6	7.7
HIDDEN SPRINGS	5500	3/27	0	0.0	7.2	2.4
HOBBLE CREEK SUMMIT			18	5.1	18.5	
HOLE-IN-ROCK SNOTEL			22	7.0	7.8	7.2
HORSE RIDGE SNOTEL HUNTINGTON-HORSESHOE	8260 9800		33 39	11.6 12.1	29.5 28.8	
INDIAN CANYON SNOTEL			39 12	5.0	12.8	
JOHNSON VALLEY	8850		2	0.2	8.4	7.1
JONES CORRAL G.S.	9720	3/30	37	9.1	9.0	12.5

SNOW COURSE	ELEV.	DATE	DEPTH	WATER CONTENT	YEAR	71-00
KILFOIL CREEK	7300	3/29				
KILLYON CANYON	6300		0	0.0	10.3	5.6
KIMBERLY MINE SNOTEL			24	8.6	15.9	16.7
KING'S CABIN SNOTEL		4/01	13	3.0	9.8	11.3 19.2
KLONDIKE NARROWS	7400		25	8.5		
KOLOB SNOTEL LAKEFORK #1 SNOTEL	9250 10100	4/01	25 28	8.3 8.7	20.8 13.2	
LAKEFORK BASIN SNTL				11.3		20.7
LAKEFORK MOUNTAIN #3			3	0.4	7.6	6.0
LAMBS CANYON	7400		28	8.1	22.5	16.1
LASAL MOUNTAIN LOWER			3	1.2	7.8	9.8
LASAL MOUNTAIN SNTL			14	4.3	11.7	13.5
LIGHTNING RIDGE SNTL LILY LAKE SNOTEL	9050		29 30	10.3 10.2	24.7 15.5	
LITTLE BEAR LOWER	6000		9	1.2	14.0	
LITTLE BEAR SNOTEL				1.0	13.8	12.3
LITTLE GRASSY SNOTEL	6100	4/01	-	.0	.0	.7
LONG FLAT SNOTEL			-	.0	4.9	
LONG VALLEY JCT. SNT			0	0.0	.9	
LOOKOUT PEAK SNOTEL LOST CREEK RESERVOIR			52 0	19.4 0.0	6.1	24.3 2.0
LOUIS MEADOW SNOTEL		4/01	8	5.1	28.1	
MAMMOTH-COTTONWD SNT			22	7.6	23.1	
MERCHANT VALLEY SNTL	8750		21	6.6	13.6	13.4
MIDDLE CANYON	7000	3/29	15	3.2	14.7	
MIDWAY VALLEY SNOTEL					25.0	
MILL CREEK	6950	3/29	46	12.5	24.5	
MILL-D NORTH SNOTEL MILL-D SOUTH FORK	7400		39 30	12.0 7.9	35.9 27.0	
MINING FORK SNOTEL		4/01	34			21.0
MONTE CRISTO SNOTEL		4/01	53		36.5	
MOSBY MTN. SNOTEL	9500	4/01	28	8.4	13.6	12.1
MT.BALDY R.S.	9500		51	14.3	27.4	
MUD CREEK #2	8600			8.2	20.0	
OAK CREEK PANGUITCH LAKE R.S.	7760		31 0	7.8 0.0	13.0 3.1	
PARLEY'S CANYON SNTL			18	6.1	22.7	
PARRISH CREEK SNOTEL			47	16.8	34.2	
PAYSON R.S. SNOTEL	8050	4/01	11 22	3.2	20.9	
PICKLE KEG SNOTEL	9600			7.0	22.4	
PINE CREEK SNOTEL RED PINE RIDGE SNTL	8800		38 15	11.8 6.6	21.4	24.8 17.3
	8500		27	9.0	21 1	17 Q
REES'S FLAT	7300		15	4.2	12.9	12.6
ROCK CREEK SNOTEL	7900	4/01	6	1.7	12.2	
ROCKY BN-SETTLEMT SN			35	13.4	26.0	26.5
SEELEY CREEK SNOTEL			16	5.7	16.4	15.3 14.0
SMITH MOREHOUSE SNTL SNOWBIRD SNOTEL	9700		25 66	8.3 25.8	58.5	35.8
SPIRIT LAKE	10300	3/30	47	11.4	11.7	
SQUAW SPRINGS	9300	3/30	4	0.4	8.6	
STEEL CREEK PARK SNO	10100		40	12.3	16.0	15.9
STILLWATER CAMP	8550		17	5.2 8.6	10.4	
STRAWBERRY DIVIDE SN			25		23.7	18.7
SUSC RANCH TALL POLES	8200 8800		0 37	0.0 8.1	5.7 12.5	
TEMPLE FORK SNOTEL			36	10.2	23.4	
THAYNES CANYON SNTL	9200	4/01	48	16.9	33.3	
THISTLE FLAT	8500		31	9.8	19.8	
TIMBERLINE	9100		10	2.2	8.2	
TIMPANOGOS DIVIDE SN			33	10.3	26.3	
TONY GROVE LK SNOTEL TONY GROVE R.S.	6250		56 7	23.1 1.8	56.0 15.7	
TRIAL LAKE	9960		59	17.0	30.1	
TRIAL LAKE SNOTEL			44	16.3	30.6	
TROUT CREEK SNOTEL	9400		22	7.2	10.2	11.2
UPPER JOES VALLEY	8900		7	1.3 3.2	13.6	
VERNON CREEK SNOTEL VIPONT			13		11.9	
VIPONT WEBSTER FLAT SNOTEL	7670 9200		28 1	6.8 .8	22.4 18.6	15.4 15.9
WHITE RIVER #1 SNTL			13	4.7	13.0	
WHITE RIVER #3	7400		0	0.0	11.6	6.1
WIDTSOE #3 SNOTEL		4/01	18	7.2	10.0	
WRIGLEY CREEK	9000	3/30	17 21	3.8	12.6 9.7	
YANKEE RESERVOIR	8/00	3/29	21	4.0	9.7	10.0



Issued by

Arlen Lancaster
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Prepared by

Snow Survey Staff
Randall Julander, Supervisor
Ray Wilson, Hydrologist
Timothy Bardsley, Hydrologist
Mike Bricco, Hydrologist
Brooke Nelson, Hydrologist
Bob Nault, Electronics Technician

Released by

Sylvia Gillen State Conservationist Natural Resources Conservation Service Salt Lake City, Utah

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Snow Survey, NRCS, USDA 245 North Jimmy Doolittle Road Salt Lake City, UT 84116 (801) 524-5213



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